Enterprise Restructuring and Corporate Performance:

Evidence from H-shares and Red Chips on Hong Kong Stock Exchange

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Abstract:

This thesis tries to find out the relation between restructuring methods of Chinese state-owned enterprises (SOE) before their share issue privatization (SIP) and corporate performance after share issue based on an empirical study on H shares and Red Chips on Hong Kong Stock Exchange. We collected data of 58 state-owned enterprises listed as H-share or Red Chip on Hong Kong stock market and divided them into two main groups 'complete restructuring' and 'incomplete restructuring' and four sub-groups pursuant to their different restructuring methods. We examined the corporate performance changes of whole sample and sub-groups and found that SIP is effective in improving SOEs' output, ROA and decreasing leverage ratio. However, it's not successful in enhancing ROS and corporate efficiency. We cannot find the obvious relation between restructuring method and corporate performance. There's no significant evidence to show that corporate performance of completely restructured SOEs is better than incompletely restructured SOEs on Hong Kong stock market. These results are different from the conclusions reached in early literature. He, Deng and Gan (2006) found that corporate performance has no significant variation after SIP and profitability decrease obviously. They also found out corporate performance of SOEs restructured completely is better than those restructured incompletely by examining samples of China A-share stock market. They argued that financial report modification before IPO and large shareholder's expropriation from the listed company through connected transactions lead to no significant increase and even decrease in corporate performance and complete restructuring method, by separating original parent SOE and listed

company validly avoid large shareholder's expropriation from the listed company. The different results in my thesis possibly suggest that strict regulations and supervisions governing connected transactions and information exposure on Hong Kong stock market decrease the degree of financial report modification before IPO and large shareholder's expropriation from the listed company, and consequently corporate performance improves for whole sample and restructuring methods are irrelevant to corporate performance after IPO.

Keywords: Restructuring, State-owned Enterprises, Share issue privatization, Complete Restructuring, Incomplete Restructuring, Multi-company Restructuring, Carve-out Restructuring

中文摘要：

此文試圖找到國有企業在上市前不同的改制方式和上市後公司績效變化的關係，研究對象是基于在香港上市的 H 股和紅籌股。我們收集了 58 家作爲 H 股和紅籌股在香港上市的國有企業樣本，幷把其分爲‘完整改制’和‘非完整改制’兩種主要形式，在非完整改制組別中，又分爲‘多家重組改制’，‘全部劃轉改制’和‘部分業務劃轉改制’等小組。我們分別檢驗了所有樣本及分組樣本改制前後公司績效的變化，幷發現私有化發行提高了公司的産出，資産回報率以及降低了負債水平。我們的結果幷未顯示不同的改制方式與改制後公司績效變化有明顯關係，整體改造的國有企業發行後的公司績效變化幷未比非完整改造的國有企業顯著。此結果與何佳，鄧建平和甘傑（2006）在對國內 A 股市場研究的結論不同，他們發現總體上國有企業私有化發行後經營業績幷未提高，完整改造的企業在績效上優于非完整改造企業。他們通過實證研究發現公司改制前的報表粉飾和上市後的大股東通過關聯交易掏空上市公司的行爲影響了公司上市後的業績表現。而大股東的掏空程度又與國有企業上市前的改造方式密切相關。整體改造在一定程度上有效的防止了大股東對于上市公司的掏空行爲。而我們以香港市場爲樣本得出的不同結果，表明了香港市場對于關聯交易的嚴格監管和信息披露的嚴格要求在一定程度上有效的防止了報表粉飾及大股東掏空上市公司的行爲。

關鍵詞：改制，國有企業，私有化發行，完整改制，非完整改制，多家重組改制，劃轉改制

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Contents

1. Introduction

Since early 1990s, China government began to reform the state-owned enterprises (SOEs) by share issue privatization (SIP). Large scales of SOEs are listed on the two domestic stock exchanges (Shanghai Stock Exchange and Shenzhen Stock Exchange) as A-shares and B-shares. Meanwhile a few large-sized SOEs with good corporate performance were selected by local and central government to be listed on Hong Kong Stock Exchange as H-share or Red Chip. Large volumes of literature have done research on the impact of share issue privatization on firm performance and results are mixed. By examining Chinese domestic stock market Sun and Tong (2003) have found share issue privatization is effective in improving earning ability, real sales and labor productivity whereas there's no improvement in profit returns and leverage ratio. To further explore the underlying reasons which have influence on corporate performance after SIP, He, Deng and Gan (2006) examined the relation between pre-privatization restructuring methods and corporate performance after SIP under the context of Chinese domestic stock market from 1997 to 2000. In China all SOEs have to be restructured from traditional SOEs into share holding companies that is to write off non-core business to prepare for public listing. Some firms were restructured through 'complete restructuring' and others through 'incomplete restructuring'. 'Complete restructuring' refers to those listed corporations relatively independent of former parent SOEs. The non-core business and related assets and liabilities are put into a new independent firm which has no direct relation with listed

firms. In contrast by incomplete restructuring parent SOE with written-off non-core business can control listed company through being the single largest shareholder of the company. They found that incomplete pre-privatized restructuring firms under-perform the completely restructured firms after IPO and they argued that the large shareholders' expropriation owing to the pre-privatized restructuring methods and lack of regulations and supervisions results in no significant improvement in corporate performance after SIP. They empirically demonstrate that the incentives and ability of the large shareholders' expropriation depend critically on the firms' organizational forms which are shaped by restructuring process before initial public offerings. Compared with China domestic stock market, Hong Kong stock market is the most important international market for Chinese SOEs to raise international funds. The China-related stocks listed on Hong Kong Stock Exchange are called as H-share and Red Chip. H-share is the company incorporated in China and approved by China Securities Regulatory Commission (CSRC) for listing on Hong Kong Stock Exchange. Red-Chips refer to companies incorporated in Hong Kong or overseas and have at least 35% shareholding held in aggregate by Mainland China entities, and/or indirectly through companies controlled by them, with the Mainland China entities being the single largest shareholders. This paper tries to examine the effect of SIP on corporate performance of SOEs listed on Hong Kong stock market and the relation between pre-privatization restructuring methods and corporate performance after SIP under the context of Hong Kong stock market.

We collect the data of Chinese SOEs having initial public offerings (IPO) on Hong Kong stock market from 1997 to 2005. In accordance with restructuring methods these companies are divided into two main groups, 'complete restructuring' and 'incomplete restructuring' and four sub-groups 'complete restructuring' 'multi-company restructuring' 'wholly carve-out restructuring' 'partially carve-out restructuring'. For each firm accounting data of 6 years is obtained, 3 years before IPO and three years after IPO. By univariate and multivariate analysis we find that increase in output, profitability (ROA) and decrease in leverage ratio are significant whereas there's no significant improvement in ROS and efficiency. We also find that state-owned enterprises in complete restructuring sub-group don't show better performance than those in incomplete restructuring sub-group. We cannot find evidence that complete restructuring is superior to incomplete restructuring by examining H-share and Red chips. These results are different from the conclusions reached in early literature.

This paper is organized as follows. Section 2 discusses background of Chine reforms on state-owned enterprises and review relevant literatures. Section 3 describes data and methodology. Section 4 presents the main empirical results to address the questions raised earlier. Section 5 concludes.

2. Background and Literature Review

Under the old system of high centralization and planned economic system, Chinese state-owned enterprises (SOEs) were plagued by persistent inefficiency, low profitability and substantial deficits. From early 1980s China began to reform its state-owned enterprises (SOEs) in a gradual approach to enhance their productivity and profitability. According to Liu and Gao (1999), the reform process have four stages. The first stage ran from 1979 to 1983 with the main goal to decentralize administrative authority and increase profitability *(fangquan rangli).* This reform undesirably led to a result of motivating SOEs to hide profit from government and caused decline in government revenue. From 1983 to 1987 the second stage called *bogaidai* began. That was to replace government allocation of capital to SOEs by bank loans. Unfortunately it resulted in huge 'triangular debt' problem that plagued SOE reform. These problems led to the third stage of the reform process which focused on the separation of government ownership from control of SOEs' operations which is called *chengbaozhi.* However, with the reform undergoing new problems emerged. These problems resulted from two main reasons. One is that these SOEs were lack of clear allocation of property right. The other is that these corporations bear heavy policy burdens and social responsibility like social security, housing and education. In 1992 the 14th Party Congress began the fourth stage of SOE reform that was corporatization *(gongsihua).* Small and weak medium-sized SOEs were sold off through auctions and corporate transformation while large ones

were transformed into publicly listed firms on stock market and still under control of government through being the largest single shareholder. Share issue privatization (SIP) has become an important way to reform SOEs by Chinese government. Two stock exchanges, Shanghai Stock Exchange and Shenzhen Stock Exchange were established in early 1990s. Large scales of SOEs are listed on these two domestic stock exchanges as A-shares and B-shares. Meanwhile a few large-sized SOEs with good corporate performance were selected by local and central government to be listed on Hong Kong Stock Exchange as H-share or Red Chip.

Hong Kong Stock market is one of the most established stock market in the world, classified by the International Finance Corporation as a developed market. In 2006 the total market capitalization went up to 12729 billion HK dollars, ranked the 7^{th} largest in the world. Hong Kong is the most important stock market for Chinese companies to raise international funds. The China-related stocks listed on Hong Kong Stock Exchange are called as H-share and Red Chip. H-share is company incorporated in China and approved by CSRC for listing on Hong Kong Stock Exchange. The per value of the shares of these Chinese enterprises is denominated in RMB and the shares are subscribed for and traded in HKD or other currencies (HK Stock Exchange). H-shares are issued by Chinese companies which may or may not have also issued A-shares (Aharony and Wong, 2000). The first H-share was Tsingtao Brewery, which was listed in 1993. Red-Chips refer to companies incorporated in Hong Kong or overseas and have at least 35% shareholding held in aggregate by

Mainland China entities, and/or indirectly through companies controlled by them, with the Mainland China entities being the single largest shareholders (HK Stock Exchange). Usually Red Chips companies were listed through the injection of Chinese assets into Hong Kong or overseas incorporated shell companies. The listing of domestic enterprises on HKEx must be approved by the Chinese Security Regulatory Committee (CSRC) and Securities and Futures Commission (SFC) in Hong Kong. Regulations of CSRC for getting listed on main board of HKEx include : total assets is not less than 400million RMB; net profit in the past year is not less than 60million RMB; equity funds raised by IPO is not less than US$50million adjusting to reasonable P/E ratio. HKEx regulates the qualification for listing is that the trading record of no less than three financial years during which the profit is not less than HK$20million in the most recent year and not less than HK$30million in aggregate in the two preceding years. The SOEs selected by the government to be listed on HKEx are always among the best former SOEs. Compliant with the legislations and regulations of CSRC and SFC, these state-owned enterprises have to be restructured into share holding companies before public listing in HKEx. Until 2005, there are 209 China-affiliate corporations listed on HKEx in total as H-share and Red Chip, with 120 H-shares and 89 Red Chips. Market Capitalization of China-related stocks on Main Board increased from 4.78% of HKEx in 1993 to 36.77% at the end of 2005 up to 2,926,328.58 million HK dollars. Equity fund raised by China-related stocks on main board reached 168,953.99 HK $mil in 2005 from 23,220.75 HK $mil in 1993. On Growth Enterprise Market (GEM) equity fund raised

by China-related stocks went up from 644.18 HK $mil in 2000 to 366.87 HK $mil in 2005. Hang Seng China Enterprises Index (HSCEI) was launched as market capitalization weighted index for H shares and was comprised of 40 stocks at the end of 2005. Another China-related stock index, Hang Seng China-Affiliated Corporations Index (HSCCI), is the market capitalization weighted index for Red Chips and was comprised of 30 stocks at the end of 2005.

Most of the Chine-related corporations listed on HKEx are born out of Chinese traditional SOE. Compliant with the legislations and regulations of CSRC and SFC, these state-owned enterprises have to be restructured into share holding companies before public listing in HKEx. Enterprise restructuring is a crucial step before Chinese SOEs list on HKEx. It involves both accounting and organizational changes. To attract international investors many SOEs carve out their profitable business units for public offerings and keep nonproductive and unprofitable units in the parent holding companies. Thus several different forms of pre-IPO restructuring emerged. They belong to two main forms. One can be termed as 'complete restructuring' and the other is 'incomplete restructuring'. Complete restructuring refers to those listed corporations relatively independent of former parent SOEs. In contrast by incomplete restructuring parent SOE can control listed company through being the single largest shareholder of the company. Regardless of restructuring form, the financial reports of the to-be-listed business units have to be converted in accordance with either International Accounting Standards (IAS) or the Hong Kong Statement of Standard

Accounting Practice (HKSSAP) (Aharony and Wong, 2000). Foreign auditors handle the financial statements of prospectus for H-share and Red Chip firms. It increases the credibility of audited financial statements. Hong Kong stock market is well-established and market regulations mechanisms are more mature than China domestic stock market. Regulations governing listed companies require each company should have at least two independent non-executive directors on all boards and these independent directors must be clearly identified and disclosed. Regulations also require listed company to disclose related-party transactions to the shareholders within three weeks of notifying stock exchange (HK Stock Exchange). In this paper we try to examine whether different restructuring forms of these SOEs shaped by privatization process influence corporate performance after IPO under the context of Hong Kong stock market.

Large volumes of literature have done research on the impact of SIP on firm performance across both market reforms and transitional economies. Some studies show that privatization is necessary for significant performance improvement (Vining and Boardman 1991; Maxim Boycko, Shleifer, and Robert Vishny 1994, 1996a,b; and Shleifer 1997.) and SOEs' productivity has been significantly improved by SIP (Groves et al., 1994; Cornelli and Li, 1997). Others argue that competition and deregulation are more important than privatization in corporate performance improvement (John Kay and D.J. Thompson 1986; Matthew Bishop and Kay 1989; John Vickers and Yarrow 1991; Franklin Allen and Douglas Gale 1999) and the SIP

reform is far from successful (Lin et al. 1998). Megginson, Nash and Randenborgh (1994) examine how privatization affects corporate performance via SIP by comparing pre- vs post-privatization performance of 61 companies from 18 countries and 32 industries from 1961-89. They found that that privatization is associated with improvement in the operating and financial performance of divested firm. Some studies also test the effect of privatization on corporate performance in transition economy. The studies (Dyck 1997; Weiss and Nikitin 1998; Claessens and Djankov 1999; Frydman, Hessel, and Rapaczynski 1999) regarding the impact of privatization on corporate performance in central and Eastern Europe show that private ownership, foreign ownership, firm-level restructuring and hiring new managers are associated with post-privatization performance improvement. China privatization process differs from many other pre-socialism countries in key respects. The government has played an important role in the reform process. To conform to the communist public ownership principle the government retains a substantial portion of ownership of privatized enterprises with the state being the largest single block holder in most SOEs. Sun and Tong (2003) have examined the effect of SIP on corporate performance in Chinese domestic stock market and found SIP is effective in improving earning ability, real sales and labor productivity whereas there's no improvement in profit returns and leverage ratio. He, Deng and Gan (2006) examined the relationship between pre-privatization restructuring methods and corporate performance after SIP under the context of Chinese domestic stock market. They found that incomplete pre-privatized restructuring firms under-perform the

completely restructured firm after IPO. Besides, they argued that the problems, such as internal related transactions and the largest shareholder expropriating minority shareholders originate in the pre-privatized restructuring methods and degrees. This paper tries to examine the effect of SIP on corporate performance on Hong Kong stock market and the relationship between pre-privatization restructuring methods and corporate performance after SIP under the context of Hong Kong stock market. Do different methods impact the incentives of the largest shareholder and corporate performance? Under the strict accounting and reporting exposure regulation of Hong Kong stock market, do the problems, such as the largest shareholder expropriating the minority shareholders emerging in domestic stock market still occur in H-shares and Red Chips companies listed on Hong Kong stock market?

3. Data and Methodology

3.1 *Data Description*

Our sample includes all state-owned enterprises listed as H-shares and Red Chips that went to public between 1997 and 2005. We focus on post-1997 because Hong Kong was handed over by Britain to China in 1997 and the territory was administered as a Special Administrative Region (SAR) of China. Large scale of SOEs went to public on Hong Kong stock market in 1997 and afterwards, and

therefore our sample is representative of SOEs listed as H-share and Red Chip.

We collect the restructuring and financial information of pre-privatization SOEs from IPO prospectus. The prospectus of SOEs listed from 1997 to 2002 was obtained from *CD-ROM database Hong Kong Listed Companies: Corporate Documents.* This database is published annually by Hong Kong Stock Exchange. The prospectus of companies listed as H-share and Red Chip after 2002 was obtained from website of Hong Kong Stock Exchange. The prospectus involves information on the history of the company, restructuring method, shareholders information, ownership structure and financial statement supposing the listed company existing three years before. We obtain three years' financial data (turnover, total assets, total liability, net income, EBIT, book value of equity) of all firms after IPO from *Thomson.*

In Table 1, we report the sample summery statistics. There are 58 firms in the sample. These firms have complete pre-IPO and after IPO accounting data. Those firms without complete accounting data are excluded from sample. According to different restructuring forms, we divide them into two main groups and four sub-groups. Among total 58 firms 12 firms went to public through '*complete restructuring*', the others through '*incomplete restructuring*'. Original SOEs always carve out their core business and best part of old firms to go to public. By complete restructuring the new listed company is relatively independent of original SOEs which remain non-core business part. For example, the restructuring plan of original China Construction

Bank separates the business, asset and liability into two companies, the listed China Construction Bank and Jianyin. The listed China Construction Bank holds the commercial banking business and related assets and liabilities. Jianyin remains non-commercial banking business and related assets and liabilities. They have no direct relationship although Huijin becomes the largest shareholder of these two companies. Incomplete restructuring involves two concrete forms, *'multi-company restructuring'*, *'carve-out restructuring'*. In our sample 46 firms went to public through incomplete restructuring, among them 8 firms were classified as *'multi-company restructuring'* form and the left 38 firms are *'carve-out restructuring'*. By incomplete restructuring parent SOE holding non-core business and related assets can control listed company through being the single largest shareholder of the company. 'Multi-company restructuring' means several SOEs put their business into one new company and list it on the stock market. The listed corporate is controlled by one or more original SOEs. 'Carve-out restructuring' SOEs can be divided into two categories further, that is *'wholly carve-out restructuring'* and *'partially carve-out restructuring'*. In case the SOEs carve out all of their operating business to be listed and parent companies only keep excess workers, obsolete plants and financial and social liabilities, we term it as wholly carve-out restructuring. In our sample there are 11 firms going to public through wholly carve-out restructuring. In case that the SOEs just carve out part of their business or their business in several regions to be listed and parent company remains the left operating business, we call it 'partially carve-out restructuring'. We take China

Telecom as example. Original China Telecom Group just carves out its telecom business in three provinces-Guangdong Province, Zhejiang Province and Jiangsu Province to be listed on HKEx. The parent group keeps operating telecom business in the left 17 provinces. Some companies carve out their most profitable business of certain industry to be listed and leaving business of other industries in original company. In our sample 'partially carve-out restructuring' group includes 27 firms.

3.2 *Methodology*

We follow existing studies as D'Souza and Megginson (1999), Sun and Tong (2003), He, Deng and Gan (2006) and compare performance changes three years before and three years after privatization. We calculate average value of three years before and three years after respectively for each firm. We measure corporate performance by output, profitability, efficiency and leverage. We use ROA and ROS as proxy for profitability, sales per employee, net income per employee, and sales-asset ratio (S/A) as measures for corporate efficiency. Debt to asset ratio is used to measure leverage. We don't involve ROE as proxy to measure profitability variation because under primary offerings SIP will increase the firm's equity accounts and ROE will decrease after the share issue even if net income remains constant (Sun and Tong, 2003). We measure ROE of the whole sample and find that ROE has significant decrease after IPO. However, we involve ROA as proxy because total liability may decrease although equity amount increase total asset. The aggregate result in total asset is

mixed.

(1) Univariate analysis

We compute mean and median of each proxy for each group over the pre- and post-privatization periods. We obtain financial data with a seven-year window for each firm, three years before IPO and three years after IPO. Then we calculate the average value of three years before IPO and after IPO respectively. For those companies which are listed less than three years, we use two years' or one year's value as value after IPO. Year 0 is excluded from the calculations as it includes both the public and private ownership phases of the enterprise. We also adjust the variables in accordance with industries. For example,

$\Delta Adj\_sales_{ij} = (sales_{ij,t} - isales_{j,t}) - (sales_{ij,t-1} - isales_{j,t-1})$ where $isales_{j,t}$ is the output in industry *j*, *ij* refer to stock *i* in the *jth* industry; *t* represents the current year and *t-1* represents the year before. *Isales* is the weighted average of the sales of all H shares and Red Chips in the same industry.

Wilcoxon signed-rank test is used to test any significant difference in the median changes for the pre- and post privatization period. T-value is used to test the significant difference in mean change of the variable values.

(2) Regression Approach

If any proxy of the change in corporate performance is significant, we use a regression approach to further explore the impacts of these factors on changing corporate performance over time. We use performance change as dependent variables. We estimate the following model:

$$\Delta P = \alpha + \beta_1 Dum_r + \beta_2 Dum_c + \beta_3 ST + \beta_4 HR + \beta_5 Size + \beta_6 Leverage + \beta_7 Dum_i + \varepsilon_i$$

The sign 'Δ' is the difference in the three-year average of performance proxy before and after privatization. Dum_r is the dummy variable indicating restructuring form. Dum_r takes the value of one if the firm is completely restructured and zero otherwise. Dum_c is the dummy variable indicating concrete forms of carve-out restructuring. Dum_c takes the value of one if the firm is carve-out restructured and zero otherwise. The ownership variables, ST, HR are the fractions of share owned respectively by state, H share or Red Chip holders. State shares refer to the part of shares owned by central government, local government or the parent state-owned enterprises. The left part of shares is held by legal person holder, foreign holder or employee holder. This part accounts for small proportion and is taken as a whole. Size is the natural logarithm of total assets as size proxy. Leverage is the total debt ratio which control for leverage effect. Dum_i represents industry type (industrials, finance, consolidated,) of the stock.

Large quantities of researches indicate that the private stock ownership is more efficient than the national stock ownership mainly because the private stock

ownership may better deal with the relations of the agency by agreement and may provide efficient observation of the manager's behaviors (Boardman and Vining, 1989; Dewenter and Malatesta, 2001). D'Souza and Megginson (1999) find that the increasing degree of sales income and that of the per capita sales income of the samples of the control privatization is higher than those of the samples of the revenue privatization, but they don't find any evident difference between the two groups of samples in regard to the increase of profit-earning ability. D'Souza, Megginson and Nash (2000) find that the larger proportion the country reserves stock ownership, the faster the profit-earning ability grows; the higher the foreign-funded stock ownership is, the faster the per capita sales income grows. Frydman, Gray, Hessel and Rapaczynski (1999) indicate that the nature of the stock ownership has an important influence on the privatization; only when the stock is controlled by the external stock-holders instead of internal stock-holders is the privatization efficient. Since the issue of privatization in China is partial privatization and the country takes a large proportion of the stock, the company is still controlled by the government. Therefore, we consider the influence of the structure of the stock ownership on the efficiency of the privatization instead of that of nature of controlling right on the efficiency of the privatization.

Large quantities of studies demonstrate that private enterprises generally carried out earning management before IPO and thus decrease the performance of the company after the issue (Jain and Kini, 1994). Dewenter and Malatesta (2001) also believe that

state-owned enterprises might as well conduct earning management before the issue, such as advanced confirmation of revenue and retarded confirmation of cost. Titman and Trueman (1986) thinks that auditing service of good quality may provide more reliable and more effective accounting information to potential investors and the reputation of auditing institutions guarantees the reliability of the accounting information. The studies conducted by Beatty (1989) and Feltham (1991) show that the accounting office could effectively decrease the information imbalance between issuing companies and investors and the unpredictability of the company's value. The higher its reputation is, the lower the restraining degree of new stocks becomes. Becke, Defond, Jiambalvo and Subramanyam (1998) believe that highly qualified auditors are more competent in discovering the problematic accounting practices. Once they find them out, they are likely to refuse to use them and they will give some auditing advices. Since almost all the SOEs listed as H-shares and Red Chips are audited by 'Big Four', we believe the auditing service is of high quality and we don't involve dummy variable indicating different audit quality.

4. Result

4.1 *Univariate analysis*

(1) Output Change

Kikeri, Nellis and Shirley (1992) state that the effective implementation of privatization will stimulate investment and bring forth new output augmentation. However, Boycko, Shleifer and Vishny (1996) believe that after the privatization, the government will no longer guarantee the non-efficient high output level and this would reduce the output. We measure the output of the company via SALE and in order to iron out the influence of the inflation rate, we divide the SALE by CPI and then take the natural logarithm.

Table 2 contains the data on sales change for whole sample and each sub-groups before and after industrial adjustment. It shows that the output of the state-owned enterprises is significantly increased after the privatization regardless of restructuring form before industrial adjustment. Almost all Wilcoxon and T tests are significant at 1% level. For whole sample the average number of the SALE is 4.166 (4.085) before the privatization and it becomes 4.584 (4.501) after it, thus an augmentation of 0.417 (0.417) occurs. The result after the industrial adjustment doesn't show the obvious increase, which is contradictory to the findings of Megginson, Nash and Randenborgh (1994), Boubakri and Cosset (1998), D'Souza and Megginson (1999), Sun and Tong (2003) and Gupta (2005) and He, Deng and Gan (2006). The sample in complete restructuring group even show decrease in sales, albeit it's not significant.

In the sample, the SALEs of the completely restructuring samples and the

incompletely restructuring samples both before the industrial adjustment are obviously increased after IPO and both Wilcoxon and T tests show that the result are significant at 1% level. However, after industrial adjustment neither group has significant increase after IPO and complete restructuring group even has decrease in mean value of sales. For the subgroups of concrete restructuring forms, the SALE of the incompletely revised samples before the industrial adjustment is obviously increased after the IPO, but that after the industrial adjustment is not obviously increased and neither Wilcoxon nor T tests show that the result has surpassed 1% level. Sun and Tong (2003) point out some or the entire rise may be the result of price increases in the industry and industrial development rather than sales unit increase. It can explain why the increase in sales is not significant after industrial adjustment. He, Deng and Gan (2006) tested the sample of SOEs listed on China A share stock market and found that sales of completes restructuring SOEs has significantly increase before and after industrial adjustment while sales of incomplete restructuring firms does not. By testing H shares and Red Chips sample we have different results.

(2) Profitability Change

We describe the profitability of the company via two variables: (1) ROS, the ratio of net income to sales (2) ROA, the ratio of net income to total assets. As this is the first time the privatization is issued publicly in China, it is inevitable that the assets,

generally in the form of bank savings in the balance sheet, are increased after the issue. The study carried out by Aharony, Lee and Wong (2000) regulates the total assets of the IPO in the previous and the following year and the formula of regulation is the total amount of assets at the end of the year minus monetary funds at the end of the year, for they believe that the regulation of the total amount of assets at the end of the year reflects more precisely the part of the total assets that really takes part in the business of the company. Therefore, a similar regulation is conducted in this study.

Table 3 presents the results on ROA change. For the whole sample the median and mean increase from 0.044 (0.057) before privatization to 0.052 (0.070) before industrial adjustment. The t-test on mean change is not significant while the wilcoxon test on median change is significant at 5%. The mean of ROA for the complete restructuring subgroup decreases albeit the result is not significant. For the incomplete restructuring group and carve-out subgroup median and mean of ROA increase and both wilcoxon test and t test are significant at 5% level. However, we notice that after industrial adjustment ROA of whole sample, incomplete sub-group and carve-out sub-group increase significantly, which conforms to the conclusion discovered by Megginson, Nash and Randenborgh (1994), Boubakri and Cosset (1998), D'Souza and Megginson (1999) and Gupta (2005) that the company's profitability is evidently increased after the issue of privatization, but different from the discovery of Dewenter and Malatesta (2001). For instance, for whole sample ROA after the industrial adjustment increases from 0.033 (0.033) to 0.036 (0.058)

and t-test is significant at 5% level and wilcoxon test is significant at 1% level. For the complete restructuring group the change in ROA doesn't show significantly increase. This hints at the possibility that the capital raised by IPO increase firms' asset on average dramatically while the net income doesn't increase as significant as asset. That may explain why ROA before industrial adjustment doesn't change significantly. However, after ironing out industrial average level of asset we can find ROA increases significantly.

Table 3 presents the result on ROS change. For almost all samples it doesn't show significantly increase or decrease after IPO. After industrial adjustment we can see the average value of whole sample, complete restructuring sample, incomplete restructuring sample and carve-out restructuring sample decrease albeit it's not significant. For instance for whole sample the median (mean) ROS changes from 0.092 (0.056) to 0.058 (0.012), reduced by $-0.035(-0.044)$. For complete restructuring group, the median (mean) decreases from 0.053(0.145) to 0.020(0.088). We observe significant increase in sales while there's no increase but even decrease in ROS. This may due to the increase in sales faster than the increase in earnings after IPO.

He, Deng and Gan(2006) found that in either completely or incompletely restructuring samples, the ROS and ROA both before and after the industrial regulation are obviously reduced by testing SOEs listed on China A share market.

However, we find different change direction of ROA and ROS by testing firms listed as H-shares and Red Chips. ROA increases while ROS decreases after industrial adjustment.

(3) Efficiency Change

The personnel redundancy is a typical problem generally existent in state-owned enterprises and the deficiency of state-owned enterprises is partially due to the fact that the government demands the state-owned enterprises to employ more people than necessary and charges them to pay the pension and welfare allowance (residence, medical care, children's education, etc.); it is possible that these problems be efficiently solved after the privatization. Meanwhile, after the privatization the companies will use more efficiently their employees, funds and technological resources owing to the reduction of the governmental subsidy and the clear comprehension of the economic goals (Kikeri, Nellis and Shirley, 1992; Boycko, Shleifer and Vishny, 1996).

We examine the variation of the business efficiency before and after the issue of privatization, including per capita income (S/E), per capita profit (I/E) and sales to asset ratio (S/A). We divide the SALE, total amount of pre-tax profit by employees. However, the firm-level employee figures are very difficult to get. Since it is hard to obtain the data of the number of employees in the company and we are only

accessible to the number of employees in some of the state-owned enterprises of the preceding year of the issue of privatization, we are only able to compare the number of employees and the business efficiency of the preceding year of the issue of privatization with the average number of those of the three years following it. We only have 42 firms that have both employment figures before IPO and after IPO. For the 42 firms, we find the median employment figure increase from 4116 before privatization to 4565 after privatization and the mean of employment increase from 23217 to 27969. And these changes are not significant. Thus, we don't list the concrete result of employment figures change.

In Table 4, for whole group both per capita income (S/E) and per capita profit (I/E) are not significantly increase after IPO. However, for completely restructuring group and wholly restructuring group the per capita income (S/E) is evidently increased after the issue of privatization. For completely restructuring group the median and mean value before the issue is 470.331 (699.580) and becomes 605.543 (879.501) after it, an increase of 135.212 (179.921) occurs. Both Wilcoxon and T tests show that the result is significant. For wholly carve-out restructuring form the median and mean value before the issue is 428.066 (415.417) and becomes 789.804(791.666) after it, an increase of 361. 737(376.249) occurs. Both Wilcoxon and T tests show that the result is significant at 1% level. However, the per capita profit (I/E) significantly decrease for complete restructuring group and increase for incompletely restructuring subgroup and carve-out subgroup. This result is consistent to the

variation in ROS. We observe significant increase in sales while there's no increase but even decrease in earnings after IPO. That may lead to increase in S/E but decrease in I/E. The variation of S/A ratio does not significantly increase or decrease. There's no obviously variation in asset utility efficiency.

(4) Leverage Change

Since the government will no longer provide security for debts, which gives rise to the increase of the debt cost, the privatization of state-owned enterprises will lead to the decrease of the debt level of the company (Megginson, Nash and Randenborgh, 1994). In addition, the entry of the funds collected from IPO will also ameliorate the capital structure of the company. We compare the variation of the capital structure before and after the issue of privatization and measure the debt level by dividing the total debts by the total assets. Table 5 shows that the debt rate is evidently decreased both before and after the industrial adjustment. For example, the debt rate for whole samples before the industrial adjustment is 66.9%(62%) before the issue of privatization and becomes 43.7% (45.7%) after it, a decrease of 23.2%(16.3%) occurs. Both Wilcoxon and T tests show that the result is significant at 1% level. Similar conclusions are drawn from other sub-samples under different restructuring methods.

4.2 *Multivariate analysis*

Besides univariate analysis, we also conduct multivariate analysis on the factors which influence the corporate performance. In our multivariate analysis, the dependent variables are △SALE, △ROA and △DEBT, other variable like △ROS, △S/E, △I/E, and △S/A aren't involved as a result of no significant variation in univariate analysis.

In Table 6, we cannot find that, on the basis of the control of other factors, the complete reconstruction of state-owned enterprises is an important factor contributing to increase in sales and profitability, albeit it influences debt variation. The complete restructuring form plays an evidently positive role in the decrease of debt ratio. In terms of sales and ROA, the variation in corporate performance of the completely reconstructed state-owned enterprises isn't superior to that of incompletely reconstructed state-owned enterprises. We find no evidence of obvious relation between the effect of the privatization issue and other variables such as the stock ownership, firm size and industry classification. The intercepts of the regressions on the change in sales, ROA and leverage ratio are not significant neither. To avoid correlation between variables, we examine complete dummy, ST, HR and asset in separate regression. Unfortunately, the coefficients in all these regressions are not statistically significant. Thus, original result is kept here.

The state-ownership variable ST has negative coefficients in Sale and Leverage ratio regression albeit it isn't significant statistically. This may suggest that the proportion of state-share has negative effect on corporate performance. Restructuring form dummy variables have mixed results. Both complete dummy and carve-out dummy have negative effect on sales change and positive impacts on leverage ratio change. The t-value of coefficient of leverage ratio is significant at 5% level. This suggests that complete restructuring form tend to decrease leverage ratio after IPO.

From the univariate analysis we can find that for whole sample OUTPUT has significant increase before industrial adjustment, ROA increases significantly after industrial adjustment from 0.033 (0.033) to 0.036 (0.058), increased by 0.004(0.025), leverage ratio decreases significantly before industrial adjustment and no significant variation in other variables. For the complete restructuring sub-group only the output and the efficiency proxy (S/E) increase significantly. For incomplete restructuring sub-group output, ROA and I/E increase significantly and leverage ratio has obvious decrease. For the carve-out restructuring sub-group the output and ROA increase obviously and leverage ratio decrease significantly. We found that the ROA of SOEs listed on Hong Kong Stock market as H shares and Red Chips increase after IPO. The corporate performance of SOEs in complete restructuring form isn't better than incomplete restructuring SOEs. By univariate and multivariate analysis we find that restructuring methods are not obviously relevant to corporate performance after IPO

as H share and Red Chips, which is different from the findings on China A share stock market. He, Deng and Gan(2006) find that corporate performance has no significant variation after IPO and profitability decrease obviously. They also find that restructuring method is related to corporate performance and complete restructuring is superior to incomplete restructuring method owing to better performance of complete restructuring SOEs after IPO. They argue that financial report modification before IPO and large shareholder's expropriation from the listed company lead to no significant increase and even decrease in corporate performance. Since complete restructuring method separates original parent SOE and listed company, the SOEs restructured completely have better performance after IPO. By examining H-shares and Red Chips we find that corporate performance in terms of ROA increases for whole sample and restructuring methods are irrelevant to corporate performance after IPO as the corporate performance of SOEs in complete restructuring form don't have better performance than incomplete restructuring SOEs. Compared with SOEs listed as A-shares, we find that all SOEs listed as H-share and Red Chips are audited by 'Big Four' accountant companies which guarantee the reliability of the accounting information. Their auditing service of high quality should be able to decrease the degree of the modification to the report and the earning management of state-owned enterprises before IPO. We also find that Hong Kong stock market has strict regulations governing connected transactions which are in Chapter 14 (Notifiable Transactions) of the *Rules Governing the Listing of Securities in the Stock Exchange of Hong Kong Ltd* (Stock Exchange of Hong Kong,

2002). The connected transactions are required to be notified to the public and the exchange. Thus, these valid regulations and supervision initiatives decrease the degree of financial report modification before IPO and large shareholder's expropriation from the listed company and consequently corporate performance in terms of ROA increases for whole sample and restructuring methods are irrelevant to corporate performance after IPO.

5. Conclusion

In this paper, we examine the change in corporate performance of state-owned enterprises listed as H-shares and Red Chips on Hong Kong stock market after their share issue privatization. We divide whole sample into sub-groups according to restructuring methods before IPO and try to find out relations between restructuring methods and corporate performance after IPO. Our results show that significant increase in sales and profitability (ROA) and decrease in leverage ratio for whole sample while no significant variation in ROS and corporate efficiency. State-owned enterprises in complete restructuring sub-group don't show better performance than those in incomplete restructuring sub-group. We cannot find evidence that complete restructuring is superior to incomplete restructuring by examining H-share and Red chips. These results are different from the conclusions reached in early literature. He, Deng and Gan (2006) found that corporate performance doesn't change significantly

after state-owned enterprises issue publicly. They also argued that corporate performance of SOEs restructured completely is better than those restructured incompletely by examining samples of China A-share stock market. These different findings possibly result from different market environment, regulations and supervisions. High quality service and credibility of accounting companies and strict regulations and supervisions by supervisory authority on Hong Kong stock market validly decrease the degree of financial report modification before IPO and large shareholder's expropriation from the listed company. In future, further research on connected transactions may be conducted to provide more direct evidence of impact of large shareholder's expropriation on corporate performance on Hong Kong stock market.

Table 1 Sample Description (1997-2005)

This table presents descriptive characteristics of whole samples classified by industry. Industry classification is obtained from Hong Kong Stock Exchange. The H-shares and Red Chips listed on Growth Enterprise Market (GEM) aren't classified by industry. Thus, those stocks are put in a single group as GEM. The total number of the stocks in whole sample is 58. These firms have complete pre-IPO and after IPO accounting data. Those firms without complete accounting data are excluded from sample.

		Total	Finance	Industrials	Consolidated	Miscellaneous	Properties	Utilities	GEM
Whole Sample		58	5	20	18	2	4	1	8
Complete		12	3	2	1	1			5
Incomplete		46							
	Multi-company	8			3	1	1		3
	Wholly Carve-out	11	1	4	5		1		
	Partially Carve-out	27	1	14	9		2	1	

Table 2 Comparison of output before IPO and after IPO

The table presents, in various samples, the number of observations, the mean and median values of OUTPUT and industrial adjust OUTPUT for average of three year pre- and post-privatization periods, the mean and median change in OUTPUT and industrial adjust OUTPUT value, and test of significance of the median and mean change. The Wilcoxon test is employed to test for any significant change in the median value and T-test is employed to test for any significant change in mean value. The last column shows the number of observations. *** ,**, and * denote significance at the 1%, 5% and 10% level.

variable	sample	median (mean) before	median (mean) after	median (mean) change	wilcoxon (p-value)		t-test (p-value)		obs.
output	whole	4.166	4.584	0.417	1674		5.882		58
		4.085	4.501	0.417	(0.000)	***	(0.000)	***	
	complete	3.369	3.915	0.546	73		3.119		12
		3.699	3.979	0.280	(0.005)	***	(0.010)	***	
	incomplete	4.304	4.624	0.320	1065		5.271		46
		4.185	4.638	0.452	(0.000)	***	(0.000)	***	
	multi-company	3.766	3.961	0.196	35		2.775		8
		3.555	4.011	0.457	(0.016)	**	(0.027)	**	
	carve-out	4.369	4.834	0.465	730		4.569		38
		4.318	4.770	0.452	(0.000)	***	(0.000)	***	
	wholly	4.969	5.374	0.405	63		1.763		11
	carve-out	4.836	5.354	0.518	(0.005)	***	(0.108)		
	partially	4.314	4.609	0.294	375		5.508		27
	carve-out	4.107	4.532	0.424	(0.000)	***	(0.000)	***	

adjust	whole	0.179	0.217	0.037	607		0.033	58
output		0.167	0.169	0.002	(0.055)	*	(0.973)	
	complete	0.044	0.111	0.067	27		-0.881	12
		0.141	0.066	-0.075	(0.380)		(0.397)	
	incomplete	0.199	0.217	0.017	386		0.265	46
		0.173	0.196	0.023	(0.093)	*	(0.792)	
	multi-company	0.184	0.381	0.198	19		0.441	8
		0.150	0.227	0.077	(0.945)		(0.673)	
	carve-out	0.199	0.163	-0.036	236		0.116	38
		0.178	0.189	0.011	(0.051)	*	(0.908)	
	wholly	0.607	0.556	-0.051	14		0.293	11
	carve-out	0.535	0.619	0.084	(0.102)		(0.776)	
	partially	0.111	0.091	-0.020	136		-0.238	27
	carve-out	0.032	0.014	-0.018	(0.211)		(0.814)	

Table 3 Comparison of profitability before IPO and after IPO

The table presents, in various samples, the number of observations, the mean and median values of ROA, ROS and industrial adjust ROA and ROS for average of three year pre- and post-privatization periods, the mean and median change in ROA, ROS and industrial adjust ROA and ROS value, and test of significance of the median and mean change. The Wilcoxon test is employed to test for any significant change in the median value and T-test is employed to test for any significant change in mean value. The last column shows the number of observations. ***, **, and * denote significance at the 1%, 5% and 10% level.

variable	sample	median (mean) before	median (mean) after	median (mean) change	wilcoxon (p-value)		t-test (p-value)		obs.
ROA	whole	0.044	0.052	0.008	1138		1.240		58
		0.057	0.070	0.013	(0.029)	**	(0.220)		
	complete	0.046	0.053	0.007	48		-0.427		12
		0.054	0.038	-0.015	(0.519)		(0.678)		
	incomplete	0.042	0.052	0.010	743		2.302		46
		0.058	0.078	0.020	(0.026)	**	(0.026)	**	
	multi-company	0.060	0.040	-0.020	22		0.817		8
		0.073	0.092	0.019	(0.641)		(0.441)		
	carve-out	0.039	0.052	0.014	522		2.134		38
		0.055	0.075	0.020	(0.027)	**	(0.040)	**	
	wholly	0.028	0.049	0.021	55		1.551		11
	carve-out	0.041	0.064	0.023	(0.054)	*	(0.152)		
	partially	0.047	0.053	0.006	250		1.577		27
	carve-out	0.061	0.080	0.019	(0.148)		(0.127)		

adjust	whole	0.033	0.036	0.004	1254		2.160		58
ROA		0.033	0.058	0.025	(0.002)	***	(0.035)	**	
	complete	0.036	0.019	-0.018	39		0.222		12
		0.043	0.049	0.005	(1.000)		(0.829)		
	incomplete	0.032	0.036	0.004	861		2.283		46
		0.030	0.061	0.031	(0.000)	***	(0.027)	**	
	multi-company	0.017	0.018	0.001	20		0.668		8
		0.027	0.061	0.034	(0.844)		(0.526)		
	carve-out	0.033	0.036	0.004	640		2.343		38
		0.031	0.061	0.030	(0.000)	***	(0.025)	**	
	wholly	0.050	0.061	0.010	61		1.817		11
	carve-out	0.044	0.114	0.070	(0.010)	***	(0.099)	*	
	partially	0.032	0.036	0.004	311		1.777		27
	carve-out	0.025	0.039	0.014	(0.002)	***	(0.087)	*	
ROS	whole	0.133	0.168	0.036	1054		0.654		58
		0.219	0.233	0.014	(0.125)		(0.516)		
	complete	0.081	0.085	0.004	43		0.146		12
		0.136	0.141	0.005	(0.791)		(0.886)		
	incomplete	0.141	0.169	0.028	674		0.638		46
		0.240	0.256	0.016	(0.147)		(0.527)		
	multi-company	0.135	0.223	0.087	31		2.078		8
		0.179	0.288	0.109	(0.078)	*	(0.076)	*	
	carve-out	0.147	0.169	0.022	416		-0.129		38
		0.253	0.250	-0.004	(0.518)		(0.898)		

	wholly	0.133	0.152	0.019	39	0.023	11
	carve-out	0.166	0.167	0.001	(0.638)	(0.982)	
	partially	0.168	0.171	0.004	213	-0.146	27
	carve-out	0.289	0.283	-0.005	(0.578)	(0.885)	
adjust	whole	0.092	0.058	-0.035	899	-0.603	58
ROS		0.056	0.012	-0.044	(0.739)	(0.549)	
	complete	0.053	0.020	-0.033	35	-0.651	12
		0.145	0.088	-0.057	(0.791)	(0.528)	
	incomplete	0.093	0.068	-0.025	597	-0.454	46
		0.033	-0.008	-0.041	(0.544)	(0.652)	
	multi-company	0.042	0.054	0.012	23	0.856	8
		-0.024	0.096	0.120	(0.547)	(0.420)	
	carve-out	0.096	0.094	-0.002	395	-0.712	38
		0.045	-0.030	-0.075	(0.731)	(0.481)	
	wholly	0.112	-0.011	-0.122	28	-1.227	11
	carve-out	0.050	-0.243	-0.293	(0.700)	(0.248)	
	partially	0.095	0.096	0.002	222	0.126	27
	carve-out	0.044	0.057	0.014	(0.441)	(0.901)	

Table 4 Comparison of efficiency before IPO and after IPO

The table presents, in various samples, the number of observations, the mean and median values of Sales/Employee, Net income/Employee, and Sales/Asset for average of three year pre- and post-privatization periods, the mean and median change in Sales/Employee, Net income/Employee, and Sales/Asset and test of significance of the median and mean change. The Wilcoxon test is employed to test for any significant change in the median value and T-test is employed to test for any significant change in mean value. The last column shows the number of observations. ***, **, and * denote significance at the 1%, 5% and 10% level.

variable	sample	median (mean) before	median (mean) after	median (mean) change	wilcoxon (p-value)		t-test (p-value)		obs.
S/E	whole	447.904	871.631	423.727	1579		1.658		42
		1019.713	1553.184	533.471	(0.000)	***	(0.103)		
	complete	470.331	605.543	135.212	78		2.595		6
		699.580	879.501	179.921	(0.000)	***	(0.025)	**	
	incomplete	436.963	901.693	464.730	979		1.545		36
		1103.226	1728.927	625.702	(0.000)	***	(0.129)		
	multi-company	959.767	1387.616	427.850	27		0.252		5
		1667.840	1913.355	245.515	(0.250)		(0.808)		
	carve-out	427.117	871.631	444.515	695		1.567		31
		984.360	1690.100	705.741	(0.000)	***	(0.126)		
	wholly	428.066	789.804	361.737	66		6.565		7
	carve-out	415.417	791.666	376.249	(0.001)	***	(0.000)	***	
	partially	326.581	897.209	570.629	343		1.323		24
	carve-out	1216.151	2056.129	839.978	(0.000)	***	(0.197)		

INCOME/E	whole	116.881	115.579	-1.302	944		0.787		42
		149.620	182.145	32.525	(0.496)		(0.435)		
	complete	330.270	92.603	-237.667	3		-4.606		6
		328.548	110.957	-217.590	(0.002)	***	(0.001)	***	
	incomplete	80.298	123.673	43.375	840		2.118		36
		102.943	200.715	97.772	(0.001)	***	(0.040)	**	
	multi-company	153.039	130.901	-22.138	21		1.037		5
		138.245	215.922	77.676	(0.742)		(0.334)		
	carve-out	75.458	118.100	42.642	615		1.890		31
		95.511	197.514	102.003	(0.000)	***	(0.067)	*	
	wholly	53.179	125.499	72.320	66		9.457		7
	carve-out	59.128	123.262	64.134	(0.001)	***	(0.000)	***	
	partially	102.205	100.902	-1.303	275		1.543		24
	carve-out	110.334	227.765	117.431	(0.040)	**	(0.135)		
S/A	whole	0.429	0.365	-0.065	649		0.624		58
		0.587	0.652	0.065	(0.111)		(0.535)		
	complete	0.467	0.460	-0.007	42		-0.059		12
		0.466	0.465	-0.001	(0.850)		(0.954)		
	incomplete	0.429	0.359	-0.070	393		0.626		46
		0.619	0.701	0.082	(0.109)		(0.534)		
	multi-company	0.532	0.547	0.015	12		-0.720		8
		0.512	0.445	-0.067	(0.461)		(0.495)		
	carve-out	0.423	0.334	-0.090	279		0.722		38
		0.641	0.754	0.113	(0.189)		(0.475)		

wholly	0.432	0.318	-0.114	3		-2.330		11
carve-out	0.559	0.377	-0.182	(0.005)	***	(0.042)	**	
partially	0.360	0.375	0.015	192		1.084		27
carve-out	0.674	0.908	0.234	(0.953)		(0.288)		

Table 5 Comparison of leverage ratio before IPO and after IPO

The table presents, in various samples, the number of observations, the mean and median values of Debt/Asset for average of three year pre- and post-privatization periods, the mean and median change in leverage ratio and test of significance of the median and mean change. The Wilcoxon test is employed to test for any significant change in the median value and T-test is employed to test for any significant change in mean value. The last column shows the number of observations. ***, **, and * denote significance at the 1%, 5% and 10% level.

variable	sample	median (mean) before	median (mean) after	median (mean) change	wilcoxon (p-value)		t-test (p-value)		obs.
D/A	whole	0.669	0.437	-0.232	187		-5.549		52
		0.620	0.457	-0.163	(0.000)	***	(0.000)	***	
	complete	0.676	0.627	-0.049	7		-2.000		8
		0.714	0.685	-0.029	(0.148)		(0.086)	*	
	incomplete	0.669	0.398	-0.271	119		-5.608		44
		0.603	0.416	-0.187	(0.000)	***	(0.000)	***	
	multi-company	0.619	0.309	-0.310	2		-2.271		6
		0.548	0.369	-0.179	(0.094)	*	(0.072)	*	
	carve-out	0.669	0.398	-0.271	90		-5.098		38
		0.611	0.423	-0.188	(0.000)	***	(0.000)	***	
	wholly	0.881	0.643	-0.239	0		-4.438		11
	Carve-out	0.732	0.540	-0.192	(0.001)	***	(0.001)	***	
	partially	0.560	0.306	-0.254	68		-3.788		27
	Carve-out	0.562	0.375	-0.187	(0.001)	***	(0.001)	***	

adjust	whole	0.972	0.770	-0.202	443		-1.892		52
D/A		0.743	0.554	-0.190	(0.016)	**	(0.064)	*	
	complete	0.854	0.890	0.036	7		-1.661		8
		-0.246	-0.761	-0.515	(0.148)		(0.141)		
	incomplete	0.972	0.770	-0.202	344		-1.257		44
		0.923	0.793	-0.130	(0.050)	*	(0.216)		
	multi-company	0.888	0.953	0.065	17		1.800		6
		0.840	0.896	0.056	(0.219)		(0.132)		
	carve-out	0.972	0.759	-0.213	223		-1.338		38
		0.936	0.776	-0.160	(0.019)	**	(0.189)		
	wholly	1.162	0.982	-0.180	29		-0.375		11
	Carve-out	1.136	1.037	-0.099	(0.765)		(0.715)		
	partially	0.831	0.754	-0.077	99		-1.403		27
	Carve-out	0.855	0.670	-0.185	(0.017)	**	(0.172)		

Table 6 Multivariate analysis on performance change

This table presents empirical results of the multivariate regression analysis on the full sample based on the following model:

$$\Delta P = \alpha + \beta_1 Dum_r + \beta_2 Dum_c + \beta_3 ST + \beta_4 HR + \beta_5 Size + \beta_6 Leverage + \beta_7 Dum_i + \varepsilon_i$$

The sign 'Δ' is the difference in the three-year average of performance proxy before and after privatization. Dum(r) is the dummy variable indicating restructuring form. Dum(r) takes the value of one if the firm is completely restructured and zero otherwise. Dum(c) is the dummy variable indicating concrete forms of carve-out restructuring. Dum(c) takes the value of one if the firm is carve-out restructured and zero otherwise. The ownership variables, ST, HR are the fractions of share owned respectively by state, H share or Red Chip holders. Size is the natural logarithm of total assets as size proxy. Leverage is the total debt ratio which control for leverage effect. Dum(i) represents industry type (industrials, finance, consolidated,) of the stock. ***, **, and * denote significance at the 1%, 5% and 10% level.

Dependent	ΔSale	ΔROA	ΔD/A	
Intercept	-0.563	-0.016	0.338	
	(0.810)	(0.088)	(0.274)	
ST	-0.002	0.000	-0.003	
	(0.007)	(0.001)	(0.002)	
HR	0.004	0.000	0.000	
	(0.010)	(0.001)	(0.003)	
Complete Dummy	-0.305	0.004	0.206	**
	(0.292)	(0.032)	(0.099)	
C Dummy	-0.141	-0.006	0.004	
	(0.201)	(0.022)	(0.068)	
Log Asset	0.121	0.006	-0.018	
	(0.080)	(0.009)	(0.027)	
Levarage	0.289	0.009	-0.409	***
	(0.352)	(0.038)	(0.119)	

Consolidated	0.214	-0.011	0.068
	(0.263)	(0.029)	(0.089)
Industrial	0.301	-0.029	0.024
	(0.263)	(0.029)	(0.089)
Finance	-0.067	-0.053	0.114
	(0.372)	(0.040)	(0.126)
N	50	50	50
Adj.R2	0.062	0.137	0.195

*, **, ***: 10%, 5%,1%

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